

5

wherein the plurality of the fingers of the driving element and the sensing element are interdigitated relative to one another;

wherein the linkage is adapted for driving a driving mass of the driving element at a first natural frequency of the driving mass;

wherein the linkage is adapted for driving a sensing mass of the sensing element at a natural frequency that is at about the same frequency as the first natural frequency of the driving mass;

wherein the first natural frequency of the driving mass and the natural frequency of the sensing mass are selected to minimize feedback from the sensing element to the driving element.

5. A yaw rate motion sensor, comprising:

a driving element having a first natural frequency for oscillating generally in a direction of a first axis upon application of a driving voltage;

a sensing element having a natural frequency for sensing relative differences in capacitance occasioned from the driving element upon application of a Coriolis force induced by an angular rotation, the sensing element including a pair of first electrodes and a second electrode disposed generally in a plane defined by the first electrodes, whereupon the translation of the second electrode relative to the pair of the first electrodes generates a capacitance; and

linkage for translating motion from the driving element to the sensing element.

6. The yaw rate motion sensor of claim 5, wherein the first natural frequency of the driving element is substantially different relative to the natural frequency of the driving element.

7. The yaw rate motion sensor of claim 5, wherein the first natural frequency differs relative to the natural frequency of the driving element by at least about 20%.

8. The yaw rate motion sensor of claim 5, further comprising:

a self-test portion for generating test data that is compared with data generated by the driving element and sensed by the sensing element; and

6

a balancing portion for helping to maintain the driving element and the sensing element in a predetermined position relative to one another.

9. A yaw rate sensor, comprising:

a driving element having a driving mass for oscillating generally in a direction of a first axis upon application of a driving voltage, the driving element having a first natural frequency in the direction of the first axis and a second natural frequency in a direction of a second axis that is perpendicular to the first axis and in the same plane as the first axis;

a sensing element having a sensing mass with a third natural frequency approximating the first natural frequency for sensing relative differences in capacitance occasioned from the driving element upon application of a Coriolis force induced by an angular rotation, the sensing element including a pair of stationary electrodes and a moving electrode disposed generally in a plane defined by the stationary electrodes, whereupon the translation of the moving electrode relative to the stationary electrodes generates a capacitance; and

linkage for translating motion from the driving element to the sensing element.

10. The yaw rate sensor of claim 9, wherein the linkage is adapted for driving the sensing mass at about the same frequency as the first natural frequency of the driving mass.

11. The yaw rate sensor of claim 9, wherein the first natural frequency of the driving element and the natural frequency of the sensing element are selected to minimize feedback from the sensing element to the driving element.

12. The yaw rate sensor of claim 9, wherein the first natural frequency of the driving element is substantially different relative to the second natural frequency of the driving element.

13. The yaw rate sensor of claim 9, wherein the linkage is adapted for driving the driving mass of the driving element at about the first natural frequency of the driving mass.

* * * * *